



Analytical Laboratory

Analytical Laboratory
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13339 Hagers Ferry Road
Huntersville, NC 28078-7929
McGuire Nuclear Complex - MG03A2
Phone: 980-875-5245 Fax: 980-875-4349

Order Summary Report

Order Number: J10090184

Project Name: FGD - Test Burn Daily

Customer Name(s): Don Scruggs, Robbin Jolly, Ray Lidke, Bill Kennedy

Customer Address: 253 Plant Allen Road

Belmont, NC 28012

Lab Contact: Jason C Perkins

Phone: 980-875-5348

Report Authorized By:
(Signature)

Date:

11/12/2010

Program Comments:

Sampled 10/6

Additional metals analyzed to coincide with EPA/UWAG sampling

Data Flags & Calculations:

Any analytical tests or individual analytes within a test flagged with an "X" or "1" indicate a deviation from the method quality system or quality control requirement. All results are reported on a dry weight basis unless otherwise noted.

Data Package:

This data package includes analytical results that are applicable only to the samples described in this narrative. An estimation of the uncertainty of measurement for the results in the report is available upon request. This report shall not be reproduced, except in full, without the written consent of the Analytical Laboratory. Please contact the Analytical laboratory with any questions. The order of individual sections within this report is as follows:

Job Summary Report, Sample Identification, Technical Validation of Data Package, Analytical Laboratory Certificate of Analysis, Analytical Laboratory QC Reports, Sub-contracted Laboratory Results, Customer Specific Data Sheets, Reports & Documentation, Customer Database Entries, Test Case Narratives, Chain of Custody (COC)

Certification:

The Analytical Laboratory holds the following State Certifications : North Carolina (DENR) Certificate #248, South Carolina (DHEC) Laboratory ID # 99005. Contact the Analytical Laboratory for definitive information about the certification status of specific methods.

Sample ID's & Descriptions:

Sample ID	Plant/Station	Collection Date and Time	Collected By	Sample Description
2010008556	ALLEN	06-Oct-10 9:12 AM	illegible	FGD Purge Eff
2010008557	ALLEN	06-Oct-10 9:15 AM	illegible	EQ Tank Eff
2010008558	ALLEN	06-Oct-10 9:16 AM	Chris Williams	BioReactor 1 Inf
2010008559	ALLEN	06-Oct-10 9:10 AM	Chris Williams	BioReactor 2 Inf
2010008560	ALLEN	06-Oct-10 9:13 AM	Chris Williams	BioReactor 2 Eff
2010008561	ALLEN	30-Sep-10 10:50 AM	L. Davis	Filter Blk
2010008562	ALLEN	30-Sep-10 10:50 AM	L. Davis	Metals Trip Blank
7 Total Samples				

Technical Validation Review

Checklist:

COC and .pdf report are in agreement with sample totals and analyses (compliance programs and procedures).

☒ Yes

☐ No

All Results are less than the laboratory reporting limits.

☐ Yes

☒ No

All laboratory QA/QC requirements are acceptable.

☒ Yes

☐ No

The Vendor Laboratories have been qualified by the Analytical Laboratory

Yes

Report Sections Included:

☒ Job Summary Report

☒ Sample Identification

☒ Technical Validation of Data Package

☒ Analytical Laboratory Certificate of Analysis

☐ Analytical Laboratory QC Report

☒ Sub-contracted Laboratory Results

☐ Customer Specific Data Sheets, Reports, & Documentation

☐ Customer Database Entries

☐ Test Case Narratives

☒ Chain of Custody

☐ Electronic Data Deliverable (EDD) Sent Separately

Reviewed By: Jenny A Herman

Date: 11/12/2010

Certificate of Laboratory Analysis*This report shall not be reproduced, except in full.***Order # J10090184**

Site: FGD Purge Eff

Collection Date: 06-Oct-10 9:12 AM

Sample #: 2010008556

Matrix: OTHER

Analyte	Result	Units	Qualifiers	RDL	Method	Analysis Date/Time	Analyst
<u>MERCURY (COLD VAPOR) IN WATER</u>							
Mercury (Hg)	32.0	ug/L		2.5	EPA 245.1	18-Oct-10 10:42	TLINN
<u>TOTAL RECOVERABLE METALS BY ICP</u>							
Boron (B)	127	mg/L		0.5	EPA 200.7	18-Oct-10 12:34	MHH7131
<u>DISSOLVED METALS BY ICP-MS</u>							
Selenium (Se)	570	ug/L		5	EPA 200.8	19-Oct-10 12:30	KRICHAR
<u>TOTAL RECOVERABLE METALS BY ICP-MS</u>							
Arsenic (As)	176	ug/L		10	EPA 200.8	29-Oct-10 12:15	KRICHAR
Chromium (Cr)	125	ug/L		10	EPA 200.8	29-Oct-10 12:15	KRICHAR
Copper (Cu)	147	ug/L		10	EPA 200.8	29-Oct-10 12:15	KRICHAR
Nickel (Ni)	246	ug/L		10	EPA 200.8	29-Oct-10 12:15	KRICHAR
Selenium (Se)	1150	ug/L		10	EPA 200.8	29-Oct-10 12:15	KRICHAR
Silver (Ag)	< 10	ug/L		10	EPA 200.8	29-Oct-10 12:15	KRICHAR
Zinc (Zn)	382	ug/L		20	EPA 200.8	29-Oct-10 12:15	KRICHAR
<u>TOTAL DISSOLVED SOLIDS</u>							
Vendor Parameter	Complete				V_PRISM		

Site: EQ Tank Eff

Collection Date: 06-Oct-10 9:15 AM

Sample #: 2010008557

Matrix: OTHER

Analyte	Result	Units	Qualifiers	RDL	Method	Analysis Date/Time	Analyst
<u>MERCURY (COLD VAPOR) IN WATER</u>							
Mercury (Hg)	24.9	ug/L		2.5	EPA 245.1	18-Oct-10 10:44	TLINN
<u>TOTAL RECOVERABLE METALS BY ICP</u>							
Boron (B)	103	mg/L		0.5	EPA 200.7	18-Oct-10 12:38	MHH7131
<u>DISSOLVED METALS BY ICP-MS</u>							
Selenium (Se)	637	ug/L		5	EPA 200.8	19-Oct-10 12:34	KRICHAR
<u>TOTAL RECOVERABLE METALS BY ICP-MS</u>							
Arsenic (As)	105	ug/L		10	EPA 200.8	29-Oct-10 12:20	KRICHAR
Chromium (Cr)	106	ug/L		10	EPA 200.8	29-Oct-10 12:20	KRICHAR
Copper (Cu)	120	ug/L		10	EPA 200.8	29-Oct-10 12:20	KRICHAR
Nickel (Ni)	198	ug/L		10	EPA 200.8	29-Oct-10 12:20	KRICHAR
Selenium (Se)	944	ug/L		10	EPA 200.8	29-Oct-10 12:20	KRICHAR
Silver (Ag)	< 10	ug/L		10	EPA 200.8	29-Oct-10 12:20	KRICHAR
Zinc (Zn)	302	ug/L		20	EPA 200.8	29-Oct-10 12:20	KRICHAR

Certificate of Laboratory Analysis

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Order # J10090184

Site: BioReactor 1 Inf
Collection Date: 06-Oct-10 9:16 AM

Sample #: 2010008558
Matrix: OTHER

Analyte	Result	Units	Qualifiers	RDL	Method	Analysis Date/Time	Analyst
<u>TOTAL RECOVERABLE METALS BY ICP</u>							
Boron (B)	71.8	mg/L		0.5	EPA 200.7	18-Oct-10 12:41	MHH7131
<u>DISSOLVED METALS BY ICP-MS</u>							
Selenium (Se)	604	ug/L		5	EPA 200.8	19-Oct-10 12:38	KRICHAR
<u>TOTAL RECOVERABLE METALS BY ICP-MS</u>							
Arsenic (As)	< 10	ug/L		10	EPA 200.8	29-Oct-10 12:25	KRICHAR
Chromium (Cr)	< 10	ug/L		10	EPA 200.8	29-Oct-10 12:25	KRICHAR
Copper (Cu)	< 10	ug/L		10	EPA 200.8	29-Oct-10 12:25	KRICHAR
Nickel (Ni)	11.3	ug/L		10	EPA 200.8	29-Oct-10 12:25	KRICHAR
Selenium (Se)	675	ug/L		10	EPA 200.8	29-Oct-10 12:25	KRICHAR
Silver (Ag)	< 10	ug/L		10	EPA 200.8	29-Oct-10 12:25	KRICHAR
Zinc (Zn)	< 20	ug/L		20	EPA 200.8	29-Oct-10 12:25	KRICHAR

Site: BioReactor 2 Inf
Collection Date: 06-Oct-10 9:10 AM

Sample #: 2010008559
Matrix: OTHER

Analyte	Result	Units	Qualifiers	RDL	Method	Analysis Date/Time	Analyst
<u>TOTAL RECOVERABLE METALS BY ICP</u>							
Boron (B)	67.5	mg/L		0.5	EPA 200.7	18-Oct-10 12:45	MHH7131
<u>TOTAL RECOVERABLE METALS BY ICP-MS</u>							
Arsenic (As)	< 10	ug/L		10	EPA 200.8	29-Oct-10 12:29	KRICHAR
Chromium (Cr)	< 10	ug/L		10	EPA 200.8	29-Oct-10 12:29	KRICHAR
Copper (Cu)	< 10	ug/L		10	EPA 200.8	29-Oct-10 12:29	KRICHAR
Nickel (Ni)	< 10	ug/L		10	EPA 200.8	29-Oct-10 12:29	KRICHAR
Selenium (Se)	86.7	ug/L		10	EPA 200.8	29-Oct-10 12:29	KRICHAR
Silver (Ag)	< 10	ug/L		10	EPA 200.8	29-Oct-10 12:29	KRICHAR
Zinc (Zn)	< 20	ug/L		20	EPA 200.8	29-Oct-10 12:29	KRICHAR

Site: BioReactor 2 Eff
Collection Date: 06-Oct-10 9:13 AM

Sample #: 2010008560
Matrix: OTHER

Analyte	Result	Units	Qualifiers	RDL	Method	Analysis Date/Time	Analyst
<u>MERCURY (COLD VAPOR) IN WATER</u>							
Mercury (Hg)	< 1	ug/L		1	EPA 245.1	18-Oct-10 10:47	TLINN
<u>TOTAL RECOVERABLE METALS BY ICP</u>							
Boron (B)	71.4	mg/L		0.5	EPA 200.7	18-Oct-10 13:45	MHH7131
<u>TOTAL RECOVERABLE METALS BY ICP-MS</u>							
Arsenic (As)	< 10	ug/L		10	EPA 200.8	29-Oct-10 12:01	KRICHAR

Certificate of Laboratory Analysis

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Order # J10090184

Chromium (Cr)	< 10	ug/L	10	EPA 200.8	29-Oct-10 12:01	KRICHAR
Copper (Cu)	< 10	ug/L	10	EPA 200.8	29-Oct-10 12:01	KRICHAR
Nickel (Ni)	< 10	ug/L	10	EPA 200.8	29-Oct-10 12:01	KRICHAR
Selenium (Se)	< 10	ug/L	10	EPA 200.8	29-Oct-10 12:01	KRICHAR
Silver (Ag)	< 10	ug/L	10	EPA 200.8	29-Oct-10 12:01	KRICHAR
Zinc (Zn)	< 20	ug/L	20	EPA 200.8	29-Oct-10 12:01	KRICHAR

Site: Filter Blk

Collection Date: 30-Sep-10 10:50 AM

Sample #: 2010008561

Matrix: OTHER

Analyte	Result	Units	Qualifiers	RDL	Method	Analysis Date/Time	Analyst
<u>DISSOLVED METALS BY ICP-MS</u>							
Selenium (Se)	< 1	ug/L		1	EPA 200.8	19-Oct-10 12:41	KRICHAR

Site: Metals Trip Blank

Collection Date: 30-Sep-10 10:50 AM

Sample #: 2010008562

Matrix: OTHER

Analyte	Result	Units	Qualifiers	RDL	Method	Analysis Date/Time	Analyst
<u>TOTAL RECOVERABLE METALS BY ICP</u>							
Boron (B)	< 0.05	mg/L		0.05	EPA 200.7	18-Oct-10 11:19	MHH7131
<u>TOTAL RECOVERABLE METALS BY ICP-MS</u>							
Arsenic (As)	< 1	ug/L		1	EPA 200.8	29-Oct-10 12:33	KRICHAR
Chromium (Cr)	< 1	ug/L		1	EPA 200.8	29-Oct-10 12:33	KRICHAR
Copper (Cu)	< 1	ug/L		1	EPA 200.8	29-Oct-10 12:33	KRICHAR
Nickel (Ni)	< 1	ug/L		1	EPA 200.8	29-Oct-10 12:33	KRICHAR
Selenium (Se)	< 1	ug/L		1	EPA 200.8	29-Oct-10 12:33	KRICHAR
Silver (Ag)	< 1	ug/L		1	EPA 200.8	29-Oct-10 12:33	KRICHAR
Zinc (Zn)	3.48	ug/L		2	EPA 200.8	29-Oct-10 12:33	KRICHAR



Full-Service Analytical &
Environmental Solutions

NC Certification No. 402
SC Certification No. 99012
NC Drinking Water Cert No. 37735

Analytical Laboratory
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Case Narrative

10/14/2010

Duke Energy Corporation
Jay Perkins
13339 Hagers Ferry Road
Huntersville, NC 28078

Project: Allen - FGD Alternative Fuels Test Burn #1 Daily
Project No.: J10090184
Lab Submittal Date: 10/07/2010
Prism Work Order: 0100267

This data package contains the analytical results for the project identified above and includes a Case Narrative, Sample Results and Chain of Custody. Unless otherwise noted, all samples were received in acceptable condition and processed according to the referenced methods.

Data qualifiers are flagged individually on each sample. A key reference for the data qualifiers appears at the end of this case narrative.

Please call if you have any questions relating to this analytical report.

Respectfully,

PRISM LABORATORIES, INC.

VP Laboratory Services

Reviewed By

Data Qualifiers Key Reference:

BRL	Below Reporting Limit
MDL	Method Detection Limit
RPD	Relative Percent Difference
*	Results reported to the reporting limit. All other results are reported to the MDL with values between MDL and reporting limit indicated with a J.

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449 Springbrook Road - P.O. Box 240543 - Charlotte, NC 28224-0543
Phone: 704/529-6364 - Toll Free Number: 1-800/529-6364 - Fax: 704/525-0409



Client Sample ID	Lab Sample ID	Matrix	Date Sampled	Date Received
2010008556/FGD Purge Eff	0100267-01	Water	10/06/10	10/07/10

Samples received in good condition at 1.2 degrees C unless otherwise noted.



Duke Energy Corporation
Attn: Jay Perkins
13339 Hagers Ferry Road
Huntersville, NC 28078

Project: Allen - FGD Alternative Fuels
Test Burn #1 Daily
Project No.: J10090184
Sample Matrix: Water

Client Sample ID: 2010008556/FGD Purge E
Prism Sample ID: 0100267-01
Prism Work Order: 0100267
Time Collected: 10/06/10 09:12
Time Submitted: 10/07/10 15:15

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analyst	Batch ID
General Chemistry Parameters									
Total Dissolved Solids	8100	mg/L	50	8.7	1	*SM2540 C	10/11/10 13:00	JAB	P0J0216



Duke Energy Corporation
Attn: Jay Perkins
13339 Hagers Ferry Road
Huntersville, NC 28078

Project: Allen - FGD Alternative Fuels
Test Burn #1 Daily
Project No: J10090184

Prism Work Order: 0100267
Time Submitted: 10/7/10 3:15:00PM

General Chemistry Parameters - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch P0J0216 - NO PREP										
Blank (P0J0216-BLK1)				Prepared & Analyzed: 10/11/10						
Total Dissolved Solids	BRL	50	mg/L							
LCS (P0J0216-BS1)				Prepared & Analyzed: 10/11/10						
Total Dissolved Solids	940	50	mg/L	1000	94	90-110				
Duplicate (P0J0216-DUP1)				Prepared & Analyzed: 10/11/10						
Total Dissolved Solids	8470	50	mg/L	8140	4	20				

Sample Extraction Data

NO PREP				
Lab Number	Batch	Initial	Final	Date
0100267-01	P0J0216	50 mL	50 mL	10/11/10



CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST FORM

Duke Energy Analytical Laboratory
Mail Code MCO3A2 (Building 7405)
13339 Hagers Ferry Rd
Huntersville, N.C. 28078
(704) 875-5245
Fax: (704) 875-4349

1) Project Name: **Allen - FGD**
2) Client: **Don Scruggs, Robbin Jolly, Ray Lidke, Bill Kennedy**
3) Business Unit:
4) Fax No.:
5) Process:
6) Mail Code:
7) Res. Type:
8) Oper. Unit:
9) Resp. Center:

ORDER# **10090184** MATRIX: OTHER
Vendor: **PRISM**
Vendor: **PO# ISW01.1913**
Logged By: **CPK** Date & Time: **9/29/10 8:30**
Cooler Temp (C): **1 + 4**
Temp Preserv.: **1=HCL, 2=H2SO4, 3=HNO3, 4=Ice, 5=None**
Samples: **NC**
Originating: **SC**
From: **Drinking Water**
SAMPLE PROGRAM: **Ground NPOES**
RCRA Waste: **UST**
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DISTRIBUTION
ORIGINAL TO LAB,
COPY TO CLIENT

LAB USE ONLY		Se Specification Bottle		13 Sample Description or ID		Date		Time		Signature		17 Comp.		18 Grab		TDS (PRISM)		Hg - 245.1		Metals*		Se, soluble	
2010008556		CO1		FGD Purge Eff		10/6	0913			<i>[Signature]</i>		1	1	1	1								
2010008557				EQ Tank Eff.		10/6	0915			<i>[Signature]</i>		1	1	1	1								
2010008558				BioReactor 1 Inf		10/6	0916			<i>[Signature]</i>													
2010008559				BioReactor 2 Inf		10/6	0919			<i>[Signature]</i>													
2010008560				BioReactor 2 Eff		10/6	0913			<i>[Signature]</i>													
2010008561				Filter Bik		9/30	1000			<i>[Signature]</i>													
2010008562				Metals Trip Bik		9/30	1000			<i>[Signature]</i>													
				Dropped 17A bottle spilled Chris Williams																			

1) Requisitioned By: **Chris Williams** Date/Time: **10/6/10 1547**
2) Accepted By: **Donner** Date/Time: **10/6/10 1430**
3) Requisitioned By: **Donner** Date/Time: **10-7-10 1430**
4) Accepted By: **Donner** Date/Time: **10-7-10 1430**
5) Requisitioned By: **Donner** Date/Time: **10-7-10 1430**
6) Accepted By: **Donner** Date/Time: **10-7-10 1430**
7) Requisitioned By: **Donner** Date/Time: **10-7-10 1430**
8) Accepted By: **Donner** Date/Time: **10-7-10 1430**
9) Sealed/locked By: **Donner** Date/Time: **10-7-10 1515**
10) Sealed/lock Opened By: **Donner** Date/Time: **10-7-10 1515**
11) Sealed/locked By: **Donner** Date/Time: **10-7-10 1515**
12) Sealed/lock Opened By: **Donner** Date/Time: **10-7-10 1515**
Comments: *** Metals=As, Ag, B, Cu, Cr, Ni, Se, Zn**
22) Requested Turnaround
14 Days _____
7 Days _____
48 Hr _____
Other _____
Add. Cost Will Apply
0100267

CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST FORM



Duke Energy Analytical Laboratory
 Mail Code MGO3A2 (Building 7405)
 13339 Hagers Ferry Rd
 Huntersville, N. C. 28078
 (704) 875-5245
 Fax: (704) 875-4349

Analytical Laboratory Use Only

Analytical Laboratory

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DISTRIBUTION
 ORIGINAL to LAB,
 COPY to CLIENT

1) Project Name Allen - FGD	2) Phone No:
2) Client: Don Scruggs, Robbin Jolly, Ray Lidke, Bill Kennedy	4) Fax No:
5) Business Unit:	6) Process: Mail Code:
8) Oper. Unit:	9) Res. Type: 10) Resp. Center:

ORDER# 10090184	MATRIX: OTHER	Samples Originating From NC SC
Logged By CPK	Date & Time 9/29/10 8:30	SAMPLE PROGRAM Water Ground NPDES Drinking Water UST RCRA Waste
Vendor PRISM PO# ISW01.1913	Cooler Temp (C) 1.4 Preserv.: 1=HCl 2=H ₂ SO ₄ 3=HNO ₃ 4=Ice 5=None	Analyses Required 4 3,4 3,4 3,4 4

Customer to complete all appropriate non-shaded areas.

LAB USE ONLY

2010008556
 2010008557
 2010008558
 2010008559
 2010008560
 2010008561
 2010008562

Se Speciation Bottle ID	¹³ Sample Description or ID	Date	Time	Signature	¹⁷ Comp.	¹⁸ Grab	Hg - 245.1	Metals*	Se, soluble
	FGD Purge Eff	10/6	0912	[Signature]			1	1	1
	EQ Tank Eff.	10/6	0915	[Signature]			1	1	1
	BioReactor 1 Inf	10/6	0916	Chris Williams				1	1
	BioReactor 2 Inf	10/6	0914	Chris Williams				1	
	BioReactor 2 Eff	10/6	0913	Chris Williams			1	1	
	Filter Blk	9/30	1050	[Signature]					1
	Metals Trip Blk	9/30	1050	[Signature]				1	
	Dropped 1 1/2 bottle spilled / Chris Williams								

1) Relinquished By Chris Williams	Date/Time 10/6/10 1547	2) Accepted By [Signature]	Date/Time 10/6/10
3) Relinquished By [Signature]	Date/Time 10/7/10	4) Accepted By [Signature]	Date/Time 10/7/10 0900
5) Relinquished By Cindy Knox	Date/Time 10-7-10 1430	6) Accepted By [Signature]	Date/Time 10/7/10 1430
7) Relinquished By	Date/Time	8) Accepted By	Date/Time
9) Seal/Locked By	Date/Time	10) Seal/Lock Opened By	Date/Time
11) Seal/Locked By	Date/Time	12) Seal/Lock Opened By	Date/Time
Comments * Metals=As, Ag, B, Cu, Cr, Ni, Se, Zn			

10-17